

# 2007 Kentucky Translational Research Forum

Thursday, October 18, 2007

The Historic Brown Hotel, 335 W. Broadway, Louisville, KY 40202

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## Forum Program

**What is the forum:** The suggestion for a CPE-sponsored Translational Research Forum emerged from the Research, Economic Development, and Commercialization Policy Group and the discussion at the August 2006 CPE retreat where various policy issues related to the Public Agenda for Adult and Postsecondary Education were examined.

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Hosted by the University of Louisville and organized by the Council on Postsecondary Education, the University of Louisville and the University of Kentucky.



# 2007 Kentucky Translational Research Forum

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*Question 5 of the CPE Public Agenda asks "Are Kentucky's people, communities and economy benefitting?" from our institutions of higher learning. Research and innovation have the potential to directly impact commercialization ventures through technology transfer, resulting in university spin-off companies and the creation of economic development clusters. In an effort to encourage research, technology transfer, commercialization and entrepreneurial activity*

*within Kentucky's universities, the inaugural Translational Research Forum will showcase UofL and UK's respective research and achievements within this area, as well as the impact (and potential impact) of that research on improving the lives of Kentuckians. Vicki Loise, executive director of the Association for University Technology Managers, will deliver the keynote speech on "The AUTM Better World Report: University Research Translating Into World Impact."*

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Read more about the AUTM Better World Report at  
<http://www.betterworldproject.net/>

UNIVERSITY of LOUISVILLE



**UK** UNIVERSITY OF KENTUCKY

**Translational Research Forum**  
**Thursday, October 18, 2007**

- 9:15 - 9:30     **Welcome – President James Ramsey, University of Louisville, Forum Chair**
- 9:30 - 9:55     **William Pierce, PhD** – Professor of Pharmacology and Toxicology, University of Louisville  
**Presentation Title:** Targeting Drugs for Treatment and Prevention of Bone Disorders
- 9:55 – 10:20   **John Yopp, PhD** – Associate Provost for Educational Partnerships and International Affairs, University of Kentucky  
**Presentation Title:** Roles of Appalachian Mathematics and Science Partnership (AMSP) in building a 21<sup>st</sup> century work force in Appalachia
- 10:20 – 10:55   **Robert Cohn, PhD** – Professor of Electrical and Computer Engineering Distinguished University Scholar, University of Louisville  
**Presentation Title:** Commercial Translation of Ultraflexible Nanoneedles to the Biomedical Researcher
- 10:55 – 11:15   *BREAK*
- 11:15 – 11:40   **Bruce Webb, PhD** – Associate Professor, Entomology Dept. University of Kentucky  
**Presentation Title:** Translating Agricultural Research into Biotechnological Opportunities
- 11:40 – 12:05   **Eugenia Wang, PhD** – Gheens Endowed Chair, Gheens Center on Aging & Department of Biochemistry and Molecular Biology, School of Medicine, University of Louisville  
**Presentation Title:** AGT's Competitive Edge in Micro RNA as the Next Bio Industry Blockbuster
- 12:05 – 12:30   **Eric Grulke, PhD, PE** – Associate Dean for Research, Professor of Chemical & Materials Engineering, University of Kentucky  
**Presentation Title:** Translating Discoveries to Commercial Solutions
- 12:30 – 2:00     *LUNCH*  
**Keynote - Vicki Loise, CMP, CAE, Executive Director** - Association of University Technology Managers
- 2:00 – 2:25     **Magdalena Kucia, PhD** – Asst. Professor – Stem Cell Biology Program – James Graham Brown Cancer Center, University of Louisville  
**Presentation Title:** Bone Marrow Derived Stem Cells – Our Key To Longevity
- 2:25 – 2:50     **Joe Wyse, PhD** – President & CEO, Coldstream Laboratories, Inc., University of Kentucky  
**Presentation Title:** Privatization of University Pharmaceutical Center – Model for Economic Development
- 2:50 - 3:10     *BREAK*
- 3:10 – 3:35     **Robert Keynton, PhD** – Chair, Professor and University Scholar – Department of Bioengineering, University of Louisville  
**Presentation Title:** Commercialization and Translation of Micro/Nanotechnologies For Chemical and Biomedical Applications
- 3:35 – 4:00     **Leslie J. Crofford, M.D.** – Professor of Internal Medicine, University of Kentucky  
**Presentation Title:** Transforming Clinical and Translational Research
- 4:00 – 4:45     **PANEL DISCUSSION** featuring President James Ramsey (UofL), President Lee Todd (UK), Brad Cowgill (Interim President – CPE) and Vicki Loise (Executive Director – AUTM)  
Moderated by: Manuel Martinez-Maldonado, MD, MACP (EVPR – UofL)
- 4:45 – 5:45     *Reception*

**James Ramsey, President  
University of Louisville**

University of Louisville President James Ramsey has worked aggressively during his five-year tenure to move UofL to its state-mandated goal of becoming a premier, nationally recognized metropolitan research university.

Dr. Ramsey has identified five strategic areas of focus for the campus:

- Continuing its commitment to educational quality
- Growing extramural research
- Enhancing campus diversity
- Building community partnerships and
- Ensuring accountability to taxpayers, students and donors.

Under his leadership, the quality of U of L's freshman class has improved each year, with the average ACT score of incoming freshmen climbing to 24.3 in 2007, well above the national average of 21.2. What's more, the university's students are claiming a much larger share of the nation's most prestigious academic honors.

A record seven UofL students received Fulbright Awards in spring 2007, bringing the school's five-year total to 19 student winners. An additional half dozen students earned other international scholarships this spring.

Ramsey also has created a university culture focused on conducting research that improves the quality of life for people in Kentucky and beyond. This research already has led to major milestones in health care, business and the environment. Today, U of L receives four times the federal research funding it received seven years ago, and the university has become America's fastest growing research university in National Institutes of Health funding.

Ramsey also has set the tone for encouraging diversity on campus. For the third straight year, U of L has reached or made substantial progress on all eight of its goals set in The Kentucky Plan for Equal Opportunities.

The university's ties with its community have never been stronger. Not only has U of L been a major player in the award-winning Partnership for a Green City with Jefferson County Public Schools and Louisville Metro government, it has launched a Signature Partnership Initiative to improve education, health care, social services and economic opportunity in a traditionally underserved area in west Louisville.

U of L has continued to advance toward meeting its state-mandated goals despite being significantly under funded by the state relative to its peer institutions — a true indicator of its accountability and stewardship.

The university has been so successful, in fact, that it concluded its 10-year, 11-point Challenge for Excellence strategic plan more than a year ahead of schedule. Ramsey is leading development of a new strategic plan, which will be unveiled in fall 2007, to carry the university through 2020.

A strong commitment to serving the community and commonwealth is nothing new for Ramsey. Before assuming U of L's top post, he served as senior policy advisor and state budget director for the Commonwealth of Kentucky and senior professor of economics and public policy at U of L.

He also has held several other positions in state government, serving as interim commissioner of the Office of the New Economy and special advisor to the chairman of the Kentucky Council on Postsecondary Education.

On the academic side, he has served as vice chancellor for finance and administration at both University of North Carolina at Chapel Hill and Western Kentucky University. He has been associate dean, assistant dean and director of public administration in the College of Business Administration at Loyola University and a research associate for the University of Kentucky's Center for Public Affairs.

He has served on the faculties of UNC, WKU, UK, Loyola University and Middle Tennessee State University.

A frequent national speaker and writer on economic issues in the public sector, Ramsey received the National Governors Association's Outstanding Public Service Award in 2001 and was named Kentucky's Distinguished Economist of the Year in 1999.

A Kentucky native, he holds a bachelor's degree in business administration from Western Kentucky University and master's and doctoral degrees in economics from UK.

Sharing his commitment to public service is his wife, Jane Ramsey, who is involved in a host of community activities and organizations. She heads an effort to beautify U of L's Belknap Campus and revitalize its surrounding South Louisville neighborhood. That effort is highlighted by the upcoming renovation of Stansbury Park, which borders the Belknap Campus. That Olmsted-designed park is being restored to its former glory thanks to partnerships among the university, Louisville Metro and the Olmsted Conservancy.

The Ramseys have two daughters. Jenny, an Auburn University graduate, has recently completed her nursing degree at UofL. Jacque is a junior at UofL.

**Lee Todd, Jr, President  
University of Kentucky**

Lee T. Todd, Jr. became the 11<sup>th</sup> president of the University of Kentucky on July 1, 2001, after serving as senior vice president of IBM's Lotus Development Corp. President Todd is the sixth UK alumnus to hold the presidency.

Since his arrival on campus, President Todd has concentrated his efforts and energies on helping his alma mater achieve a greater level of national prominence. To that end, he launched the University of Kentucky's Top 20 Business Plan in December 2005. The plan is a quantitative analysis highlighting what it will take for UK to achieve its state-mandated goal of building a Top 20 public research university. Widely hailed as the first business plan by a public university in the nation, UK's plan garnered widespread national attention. It has been featured by national media outlets and recognized by peer institutions, as several higher education leaders have visited UK's campus to learn more about the Business Plan approach. The Top 20 Business Plan also gained support throughout the Commonwealth, as the Kentucky General Assembly fully funded the plan beginning in 2007-08.

President Todd has spearheaded an effort to revitalize health care in Kentucky. In June 2006, UK unveiled the Commonwealth's Medical Campus of the Future, a multi-phased project aimed at providing Kentuckians with cutting-edge, 21<sup>st</sup> century health care. As part of the revamped academic medical campus, UK will construct a new, one million square foot University of Kentucky Albert B. Chandler Hospital, a new College of Pharmacy, and a new University Health Service (UHS) facility. All three of those projects are currently underway.

His belief that "the campus of the University of Kentucky is the Commonwealth of Kentucky" has inspired President Todd to make community outreach a university priority. In May 2005, UK unveiled the Commonwealth Collaboratives, an initiative that combines the university's research and outreach missions. Featuring 23 research projects led by some of university's world-class researchers, the Commonwealth Collaboratives are aimed at solving the "Kentucky Uglies," a term President Todd uses to describe conditions that have held Kentucky back for generations. The Collaboratives are designed to have an impact on health care, education, economic development, environmental conditions, and quality of life.

Under his leadership, UK was awarded a \$22 million grant from the National Science Foundation to improve math and science education in Eastern Kentucky. He also developed the Health Education through Extension Leadership (HEEL) program, a partnership between the College of Public Health and the College of Agriculture and its Cooperative Extension Service, to deliver valuable health and wellness information throughout the Commonwealth.

UK further cemented its reputation for Cooperative Extension innovation in 2005, when the university became the first land-grant university in the United States to hire a fine arts extension agent in Pike County. The fine arts agent is expanding and promoting an already thriving arts community while leveraging the arts' potential to enhance the area's economy. The program has been so successful that the university has expanded the program, adding a fine arts agent in Greenup County.

President Todd has directed the consolidation of several colleges and campus units to eliminate duplication and improve campus efficiency. To date, those efficiency efforts have resulted in \$65.4 million in university savings. At the same time, he expanded the university's educational reach. In May 2004, the UK Board of Trustees approved the creation of the UK College of Public Health, the university's first health professions college since the College of Allied Health Professions was established in 1966. This action allowed the School of Public Health, formerly part of the College of

Medicine, to attain college status, making it the UK Chandler Medical Center's sixth college of health professions.

President Todd's push for national prominence has led to remarkable growth across a number of university measures. Enrollment at UK has grown from 23,852 students in 2000 to 27,240 students in fall 2006 — a 14 percent increase. The university has remained focused on increasing student quality as it grew. In fact, UK's graduation rate is higher today than it was five years ago. In 2000, the percentage of UK students graduating within six years was 55.5 percent. In 2005, it was 59.8 percent — the highest of any public university in Kentucky. From 2001 to 2006, UK's research expenditures have more than doubled —jumping from \$159.9 million to \$324 million.

A native of Earlington, Ky., President Todd earned his bachelor's degree in electrical engineering from UK in 1968 and his master's and doctoral degrees in electrical engineering from the Massachusetts Institute of Technology (MIT) in 1970 and 1973, respectively. While at MIT, he received six patents for high-resolution display technology and proposed using telecommunications and high-resolution displays for data conferencing.

He returned to UK in 1974 as an electrical engineering professor. He won several teaching awards, including the UK Alumni Association Great Teacher Award. He also served on several university panels, including the University Senate for seven years. He was awarded the Outstanding Alumnus of Kentucky Award in 2002 from the Kentucky Advocates for Higher Education.

While at UK, President Todd founded Projectron Inc. in 1981 to make projection cathode ray tubes for flight simulators. He left UK in 1983 to begin product development at a second company, DataBeam Corp., which he had founded in 1976. In 1990, he sold Projectron to Hughes Aircraft Co. and convinced Hughes to move its other CRT operations in California and New York to UK's Coldstream Research Campus. He sold DataBeam, the world's leading provider of real-time collaboration and real-time distance learning software and development platforms, to IBM.

President Todd also co-founded the Kentucky Science and Technology Corp., a not-for-profit organization focused on increasing university research capacity, developing science and technology education (K-12) programs, and encouraging an entrepreneurial economy in Kentucky. He co-authored the initial proposal that resulted in Kentucky being selected as an EPSCoR (Experimental Program to Stimulate Competitive Research) state. This program has resulted in bringing millions of dollars in research and development funds from federal and state matching sources.

President Todd served on the Kentucky Council on Postsecondary Education. He chaired the Distant Learning Advisory Committee that is responsible for the development of the Kentucky Commonwealth Virtual University and the Commonwealth Virtual Library.

President Todd is currently a member of the Board of Directors and Executive Committee for the American Council on Education (ACE) and the National Association of State Universities and Land-Grant Colleges (NASULGC). He also serves on NASULGC's President's Council. He serves on the Equitable Resources Board of Directors and is Chair of the National Science Foundation's (NSF) Education and Human Resources Advisory Committee. He is Chair of the Kentucky Council on Postsecondary Education's STEM (Science, Technology, Engineering, and Mathematics) Task Force and is also a member of the Business Higher Education Forum and the Council on Competitiveness.

He is married to the former Patricia Brantley, a UK graduate who earned her master's degree from Simmons College in Boston. They have two adult children, UK graduates Troy and Kathryn.

# **2007 Kentucky Translational Research Forum**

## **Presenters**

**Presenter:**

**William Pierce, PhD**

Professor of Pharmacology and Toxicology  
University of Louisville

“Targeting Drugs for Treatment and Prevention of Bone Disorders”

*This is a presentation of the development of a new class of drugs for osteoporosis. This is followed by discussion of further development of a platform strategy for future development of other drugs for treatment of bone metabolic disorders.*

**Brief Bio:** William M. Pierce Jr., Ph.D. is an alumnus of the University of Louisville, and he received the B.A. in Chemistry in 1977 and PhD in Pharmacology and Toxicology from UofL in 1981. This was followed by postdoctoral research at Stanford University in Molecular Pharmacology. He was appointed to the faculty of the University of Louisville in 1984, and is now Professor of Pharmacology and Toxicology and Professor of Chemistry. His research interests include new drug design, in particular design of drugs with the potential for use in treatment of osteoporosis. In 2005, in partnership with Metacyte, Pierce and his collaborators Leonard C. Waite and K. Grant Taylor, formed Pradama, Inc., a specialty pharmaceutical company dedicated to development of drugs for treatment of bone disorders.

**Presenter:**

**John Yopp, PhD**

Associate Provost for Educational Partnerships and International Affairs  
University of Kentucky

“Roles of Appalachian Mathematics and Science Partnership (AMSP) in building a 21<sup>st</sup> century work force in Appalachia”

*The impact on K-12 student achievement in mathematics and science and teacher content and pedagogical knowledge in response to the integrated initiatives in pre and in-service teacher education reform, school improvement, and research of the \$24 million, five year National Science Foundation – funded Appalachian Mathematics and Science Partnership (AMSP), a project of partnership engagement between faculty of ten institutions of higher education and the teachers and administrators in 56 counties of the four central Appalachian states, will be discussed. Numerous national studies and research-related reports have established the relationship between mathematics and science education and the critical preparation of a globally competitive 21<sup>st</sup> century workforce needed to fuel innovation and sustainable economic growth.*

**Brief Bio:** John Yopp is Associate Provost for Educational Partnerships and the Appalachian Mathematics and Science Partnership at the University of Kentucky. He is on the Board of CIEE and was a member of NAFSA's Task Force on the Bologna Process. He works with the EAIE and other European Associations on the Bologna Process and has served on national boards and committees on international issues for 25 years.

He was VP for Graduate and Professional Education at the ETS and Senior Scholar at the Paul Simon Public Policy Institute and the CGS where he worked with Senator Simon, as Project Director, to create a briefing book for the Congressional of the Lincoln Fellowship Program for Study Abroad.

He received his baccalaureate from Georgetown University and his Ph.D. in Biology from the University of Louisville; was professor plant physiology and Associate Vice Chancellor for Academic Affairs and Graduate Dean at Southern Illinois University.

**Presenter:**

**Robert Cohn, PhD**

Professor of Electrical and Computer Engineering  
Distinguished University Scholar  
University of Louisville

**"Commercial Translation of Ultraflexible Nanoneedles to the Biomedical Researcher"**

*NaugaNeedles, LLC was established to commercialize UofL's very recent and remarkable discoveries in self-assembled fabrication of nanostructures. Ultraflexible and strong metal nanoneedles have been selectively grown onto tapered pipettes and atomic force microscope (AFM) probes in a matter of minutes. Their great flexibility, extremely large length-diameter ratio (aspect ratio) and resistance to mechanical damage recommend them for use in probing soft matter and complex fluids including biological materials and live cells. These needles are so small that they can be inserted deeply into live cells (as well as organelles) with little disruption to cells, high spatial localization and the potential for localized drug delivery, mechanical actuation, visco-elastic characterizations and electrochemical sensing. These features have been immediately recognized by and attracted the interest of a number of scientists who apply AFM to the study of molecular cell biology and biophysics. Also it is clear that some of the successfully developed probes for these researchers will eventually develop into volume applications (e.g. medical diagnostics and food quality monitoring.) The NaugaNeedles early development strategy consists of three parts: (1) custom fabrication of evaluation samples of needle-tipped probes for biomedical researchers, (2) development of a batch fabrication process for manufacturing probes with a target sales price of \$70/probe, and (3) in-house and cooperative research on the development of advanced probes and probe applications, including in support of biomedical research. The development of a customer base from the biological research community is believed to be essential for developing accepted protocols for using the probes in NIH sponsored research. An example of the NaugaNeedles' strategy is found in their recent NIH-SBIR proposal where three research groups each proposed to achieve hypothesis-based specific aims in their current research projects, in exchange for evaluation samples of NaugaNeedles' needle-tipped probes.*

**Brief Bio:** Prof. Cohn holds the PhD in Electrical Engineering from Southern Methodist University. From 1978-1989 he was Member of the Technical Staff, Texas Instruments, where his research included the development of TI's DLP micromirror technology which is now widely used in commercial projectors and HDTV's. Since joining University of Louisville in 1989 he founded and currently directs the ElectroOptics Research Institute and Nanotechnology Center. Some of the research activities over his career include surface acoustic wave device development, application of spatial light modulators to information processing, diffraction pattern generation and laser trapping optical tweezers and development of novel methods for micro- and nanofabrication. He is Fellow of the Optical Society of America (OSA) and co-founder and Director of the Board of Advisors of NaugaNeedles, LLC.

**Presenter:**

**Bruce Webb, PhD**

Associate Professor, Entomology Department  
University of Kentucky

**"Translating Agricultural Research into Biotechnological Opportunities"**

*A brief introduction to several companies derived from research in the College of Agriculture will be used to illustrate commercialization potential of our research. The presentation will then focus on ParaTechs Corp. as an example of how commercializable opportunities were identified and developed from research performed at the University of Kentucky. The role of Federal and State funding in this process will be highlighted.*

**Brief Bio:** Dr. Webb received degrees from the Universities of Virginia (B.A., 1981), Kentucky (M.S. 1983) and Washington (Ph.D. 1988) then completed a postdoctoral fellowship (NIH:NRSA) at Texas A&M University. He then joined the faculty at Rutgers University before coming to the University of Kentucky in 1995. Dr. Webb is an expert on an unusual group of insect viruses, the polydnaviruses. Since 2001, Dr. Webb's lab has participated in the University of Kentucky's response to Mare Reproductive Loss Syndrome (MRLS) and helped to identify the causative agent causing and develop effective preventive measures. Dr. Webb has contributed to the Agricultural Biotechnology program since 1996 and became director of the program in 2005.

The AgBiotech program is a very strong undergraduate degree programs capable of contributing to state commercialization efforts. In 2003, Dr. Webb was co-founder and President of ParaTechs Corp., a biotechnology company based on research conducted in his lab. Dr. Webb has served on grant review panels for the USDA, the NSF and EPA and received over \$5 M in federal grants through UK with ParaTechs Corp. having received over \$2 M in similar awards.

**Presenter:**

**Eugenia Wang, PhD**

Gheens Endowed Chair, Gheens Center on Aging & Department of Biochemistry and Molecular Biology, School of Medicine  
University of Louisville

**“AGT’s Competitive Edge in Micro RNA as the Next Bio Industry Blockbuster”**

*The July, 2007 issue of “The Economist” reported that microRNAs, a recently discovered small RNA species, are an emerging competitive arena for the biotechnology industry, with promises ranging from advance diagnosis to novel therapeutic treatment. These naturally occurring molecules are dimmer switches controlling most, if not all, gene expression; the presence or absence of specific microRNAs, regulating the expression of many genes simultaneously of a defined molecular pathway, are suggested as the candidate etiology for many diseases, from cancer to cardio- and neuro-degeneration, thus a new frontier of biotechnology industry where an entire disease signaling pathway is targeted for diagnosis and intervention, instead of the traditional approach using individual genes as the detection and therapeutic single targets. AGT’s technology platform, producing seven species-specific microRNA micro arrays (MMChips) ranging from human to virus, and applied to diagnosis of Alzheimer’s disease and influenza infection, enjoys a competitive edge in this emerging exciting field of biotechnology.*

**Brief Bio:** In 1975, Wang received her doctoral degree from Case Western Reserve University, and then advanced from postdoctoral fellow to assistant professor rank at the Rockefeller University. In 1987, she was invited to establish the first Canadian Center on the Biology of Aging, the Bloomfield Center on Aging, at McGill University in Montréal, where she also as Professor of Medicine, Neurology and Anatomy trained more than 100 undergraduate, graduate, postdoctoral and clinical scientists. In 2000, Dr. Wang joined UofL, and has been one of the “Bucks-for-Brain” endowed professors. In December, 2005, she established Advance Genomic Technology, LLC (AGT) for the commercialization of her UofL’s discoveries. She is author of some 160 papers and 5 books, and holder of 14 provisional and fully-approved patents.

**Presenter:**

**Eric Grulke, PhD, PE** – Associate Dean for Research, Professor of Chemical & Materials Engineering  
University of Kentucky

**"Translating Discoveries to Commercial Solutions"**

*"Translation" research in medicine is often related to improving the efficiency, shortening the lead time, or better integrating the movement of medical research in the clinic. Translating research discoveries in the physical sciences and engineering into successful products, processes and services may be parallel with medical efforts in some ways, but the endpoints and pathways can be quite diverse. The challenges in the non-medical discovery areas include matching the technology to the user, developing reasonable options for commercialization pathways, and planning for product improvements.*

**Brief Bio:** Dr. Eric A. Grulke is the Associate Dean for Research and Graduate Studies in the College of Engineering at the University of Kentucky. He is also a Professor of Chemical and Materials Engineering and the Director of the University's Electron Microscope Center.

Dr. Grulke received the BS (cum laude), MS and Ph.D. degrees in chemical engineering from The Ohio State University. During Dr. 15-year tenure at Michigan State University, he served as a Congressional Engineering Fellow in the office of Senator Carl Levin and spent three years as the College of Engineering's Associate Dean for Research. In 1993, he joined the University of Kentucky, as chair of the Department of Chemical and Materials Engineering and has served as the Director of the University's Materials Characterization Center and as Associate Director of the Center for Applied Energy Research. Since his appointment as Associate Dean for Research and Graduate Studies in 2002, the College of Engineering has realized a 45% increase in external research funding; established a Center for Sustainable Aluminum Industry, and launched the Institute of Research for Technology Development (IR4TD), an international institute focused on industry problems in the painting and coatings area.

Dr. Grulke is the senior U.S. editor of ***Polymer Handbook***, now in its fourth edition. He has been awarded three U.S. patents and is a registered professional engineer in the states of Ohio and Michigan. He has served as a member of review panels for the NSF, NASA and USDA. He holds professional membership in the American Institute of Chemical Engineers, the American Chemical Society, American Society of Engineering Education, and TMS (The Mineral, Metals and Material's Society). Dr. Grulke's research interests are in nanoparticles in fluids and polymers.



## **Keynote**

### **"The AUTM Better World Report: University Research Translating Into World Impact"**

#### **Vicki Loise, CMP, CAE**

Executive Director

Association of University Technology Managers (AUTM)

Vicki Loise, CMP, CAE, joined AUTM in April 2005 as administrative director. She was promoted to the position of Executive Director in November 2005. In this capacity she serves the needs and interests of the AUTM membership as defined by its Mission and Goals. She does this by raising awareness of the association and the profession, facilitating the strategic planning process, maintaining appropriate governance for the organization and oversees the headquarters staff.

Vicki spent 12 years in various management positions at the National PTA, a 6-million volunteer member organization serving as the oldest and largest child advocacy group in the country, most recently as development director. She worked closely with the executive team to implement the strategic direction of the organization and was instrumental in identifying, researching and cultivating potential sources of funding from corporate, foundation and individual donors, which resulted in a 63% increase in donation revenue in 2004.

She also managed operations areas such as the meetings department where she managed multiple events each year including their annual convention.

Prior to the PTA, Vicki spent two years as the Administrative Associate for Meetings and Conferences at the American Association of Oral and Maxillofacial Surgeons in Rosemont, Illinois.

Vicki earned a bachelor's degree in interpersonal and public communication from Central Michigan University and has been a Certified Meeting Professional since 1995. She was awarded the Certified Association Executive (CAE) designation in 2005 from the American Society of Association Executives (ASAE). She is a member of ASAE and the Association Forum of Chicagoland.

**Presenter:**

**Magdalena Kucia, PhD**

Asst. Professor

Stem Cell Biology Program – James Graham Brown Cancer Center

University of Louisville

**“Bone Marrow Derived Stem Cells – Our Key To Longevity”**

*The identification of Very Small Embryonic Stem Cells. Our research has shown that adult tissues harbor a population of stem cells which are very primitive and possess embryonic-like characteristic. We named these cells very small embryonic-like (VSEL) stem cells based on their extremely small size, type of nuclear organization and expression of markers that are typical for embryonic stem cells. Further, we developed an expansion model, which allows obtain early stem cells in quantities that could be potentially applied for tissue regeneration. The role of VSELs in regeneration*

**Brief Bio:** Dr. Kucia obtained her PhD from Jagiellonian University in Cracow, Poland. Since 2002 she is working in Stem Cell Biology Program at James Graham Brown Cancer Center, when she joined Dr Ratajczak Program. In 2007 she was promoted to a rank of Assistant Professor in Department of Medicine at Stem Cell Institute.

**Current Research Projects:**

**The identification of Very Small Embryonic Stem Cells.** Our research has shown that adult tissues harbor a population of stem cells which are very primitive and possess embryonic-like characteristic. We named these cells very small embryonic-like (VSEL) stem cells based on their extremely small size, type of nuclear organization and expression of markers that are typical for embryonic stem cells. Further, we developed an expansion model, which allows obtain early stem cells in quantities that could be potentially applied for tissue regeneration.

**The role of VSELs in regeneration.** Our research is focused on identifying mechanisms responsible for tissue regeneration.

**The role of CXCR4-SDF-1 axis in cancer metastasis.** We explore a concept that SDF-1-CXCR4 axis is the master regulator of trafficking of both normal and cancer stem cells and postulates that the metastasis of cancer stem cells and migration of normal stem cells are mirror images and involve similar mechanism.

**Presenter:**

**Joe Wyse, PhD**

President & CEO

Coldstream Laboratories, Inc.

University of Kentucky

**“Privatization of University Pharmaceutical Center – Model for Economic Development”**

*Coldstream Laboratories Inc., formerly the Center for Pharmaceutical Science and Technology officially began operation in May 1, 2007. The presentation will review the evolution of CPST to Coldstream Laboratories and the services offered by Coldstream Labs. Lessons learned from the transition will be discussed and reviewed.*

**Brief Bio:** Dr. Wyse is the President & CEO of Coldstream Laboratories Inc. (formerly the Center for Pharmaceutical Science and Technology (CPST) at the University of Kentucky). Dr. Wyse’s 19 year career has focused on various aspects of pharmaceutical, biotechnology, and medical device development, including product development, business development, and intellectual asset management. His product development experience includes the formulation and cryopreservation of blood products, formulation and manufacturing of liposomal drug products, development of a novel gene delivery system, and medical device development.

Dr. Wyse’s business development and intellectual asset management experience has involved patent landscape analysis, technology evaluation, invention and technology inventories, valuation analysis, strategic options assessment, and contract negotiations.

Dr. Wyse’s professional experience includes twelve years with pharmaceutical and biotechnology companies including Coldstream Laboratories, the CPST, Aronex Pharmaceuticals, and Lifecell, and seven years as an intellectual asset management consultant with Pricewaterhousecoopers and yet2.com.

Dr. Wyse received his B.S. in Chemistry from Asbury College and his M.S. and Ph.D. in Chemistry from the University of Kentucky.

**Presenter:**

**Robert Keynton, PhD**

Chair & Professor University Scholar  
Department of Bioengineering  
University of Louisville

**"Commercialization and Translation of Micro/Nanotechnologies For Chemical and Biomedical Applications"**

*The merging of micro/nanotechnology with biology, chemistry and medicine holds the promise of revolutionizing the fields of biotechnology and chemotechnology. Within the past fifteen years, the idea of developing miniaturized platforms for chemical and biological detection and fundamental science research has progressed from a research curiosity to a commercial reality. Micro/nanotechnologies have become an important component in environmental testing, homeland security, and cellular investigations. For example, our group has been actively involved in the development of a fully portable anodic stripping voltammetry – capillary electrophoresis device; microfabricated explosive detection systems; nanofabricated gas resonant sensors; and, micro/nanofabrication of fibers for capillary and tissue generation. These projects and others will be presented in this seminar.*

**Brief Bio:** Dr. Keynton specializes in the development of biomedical MicroElectroMechanical Systems (BioMEMS), the development of micro Total Analysis Systems (UTAS), cardiovascular mechanics, experimental and computational microfluidics, acoustic transducer design and fabrication, and experimental fluid mechanics. He is currently the chair and a full professor of the Department of Bioengineering and a University Scholar at the University of Louisville. He received the B.S. degree in engineering science and mechanics from Virginia Polytechnic Institute and State University, Blacksburg, VA, in 1987, the M.S. and Ph.D. degrees in biomedical engineering from the University of Akron, Akron, OH, in 1990 and 1995, respectively. He co-founded two companies, Assenti, LLC and Ultra Trace Detection, LLC, along with colleagues at UofL in 2003 and 2006, respectively. In 2001, Dr. Keynton was recognized by the Houston Society of Engineering in Medicine and Biology as the Outstanding Young Scientist of the Year. Dr. Keynton has over 60 peer-reviewed publications, 70 conferences papers, and 12 patents pending. He is currently involved in multidisciplinary research that includes over \$8.8 million of funding from NIH, NSF and DHS. He is an active member of ASME, IEEE-EMBS, and BMES and has organized conferences and sessions for these societies.

**Presenter:**

**Leslie J. Crofford, M.D.**

Gloria W. Singletary Professor of Internal Medicine; Chief, Division of Rheumatology & Woman's Health; Director, Center for the Advancement of Women's Health; Program Director, General Clinical Research Center  
University of Kentucky

**"Transforming Clinical and Translational Research"**

*Changes in the mechanism by which the NIH funds infrastructure and training for the clinical and translational science have necessitated a change in the organization and scope of efforts in this area. The University of Kentucky has developed a plan to involve multiple colleges, incorporate affiliated facilities, and consolidate infrastructure to meet the challenges that lie ahead.*

**Brief Bio:** Dr. Crofford is a native of Nashville, TN and a graduate of Vanderbilt University and the University of Tennessee Center for the Health Sciences. She served her internship and residency in Internal Medicine at Washington University's Barnes Hospital in St. Louis. Following training in Internal Medicine, she pursued research and clinical fellowships in Molecular Genetics and Rheumatology at the National Institutes of Health from 1989-1993. She joined the faculty of the University of Michigan in 1993 and rose to the rank of Professor. She relocated to the University of Kentucky in 2004 as Gloria W. Singletary Professor of Internal Medicine, Chief of the Division of Rheumatology, and Director of the Center for the Advancement of Women's Health. She holds a joint appointment as Professor of Microbiology, Immunology, and Molecular Genetics. Dr. Crofford was appointed as Program Director of the University of Kentucky General Clinical Research Center in 2006.

## **PANEL DISCUSSION**

**President James Ramsey**  
**President Lee Todd**  
**Vicki Loise**  
**Bradford Cowgill**



## **PANEL DISCUSSION**

**BRADFORD L. COWGILL**

**President**

**Kentucky Council on Postsecondary Education**

Bradford L. Cowgill became interim president of the Council on Postsecondary Education September 1, 2007. He served as State Budget Director from December, 2003, until his appointment to the Council and gave direction to the preparation of the Governor's recommended budgets in FY05-06 and FY07-08. He also was the principal author of Governor Ernie Fletcher's Tax Modernization legislation which was adopted by the General Assembly in 2005. Prior to his appointment as state budget director in 2003, he practiced law with Stites and Harbison where his practice was concentrated in corporate matters and commercial litigation. He has served as chair of the boards of the Lexington Community College, the Continuing Legal Education Commission, Saint Joseph Hospital, United Way of the Bluegrass, and as a board member for several civic and business organizations including the Kentucky Chamber of Commerce and the Lexington Chamber of Commerce. In 1993, he has served as council member-at-large of the Lexington-Fayette Urban County Government. He is a graduate of Leadership Kentucky and Leadership Lexington and was recognized in 1984 as "Lexington's Outstanding Young Man." He holds a bachelor's degree in political science and economics from Vanderbilt University and a juris doctorate from the University of Kentucky College of Law.

**PANEL DISCUSSION - MODERATOR**

**Manuel Martínez-Maldonado, MD, MACP**

Executive Vice President Research

**Manuel Martínez-Maldonado, M.D., MACP, FAHA, FAAAS** Graduated from Temple Medical School and was President and Dean, of Ponce School of Medicine from 2000 to 2006. From May 1998 to Dec 1999 he was professor of medicine, vice provost and vice president for research at Oregon Health Sciences University in Portland. He was the Vice Chair of the department of medicine at Emory University Medical School and director of internal medicine and ambulatory care at the Atlanta VA Medical Center from 1990-1998. He is a board-certified internist and nephrologist and a Master of the American College of Physicians. He received his nephrology training at the University of Texas Southwestern Medical School in Dallas. He has held professorships at Baylor College of Medicine, the University of Puerto Rico, Emory and OHSU. He has also taught at Harvard and Vanderbilt. He has served on numerous NIH committees, including the Board of Scientific Counselors of the NHLBI. Author of numerous scientific publications, his research interests include disturbances of body fluid composition, the renin-angiotensin system and hypertension and their effects on renal function and kidney damage. For over ten years Dr. Martínez-Maldonado has been listed in Who's Who in America, Who's Who in the World, Who's Who in Medicine and Health, Who's Who in the South and Southeast. Dr. Martínez-Maldonado is a Fellow of the American Heart Association and the American Association for the Advancement of Science. He holds membership in numerous societies, including the American Society for Clinical Investigation, the Association of American Physicians, and the Institute of Medicine of the National Academy of Sciences. He is a foreign honorary member of the American Academy of Arts and Sciences.

